CHAPTER 7

COMMAND AND CONTROL AND COMMUNICATIONS

7-1. General

This chapter provides an overview of the C2 structure within a TO. The chapter also discusses unit communications in effect the date of this publication.

7-2. Command and Control

The MEDCOM is the senior medical headquarters assigned to a TO. It controls the majority of its assigned units through subordinated COMMZ medical brigades. The medical brigade assigned to the corps support command (COSCOM) is the senior medical C2 element in the corps; it controls nondivisional medical units assigned to the corps through its subordinate medical group headquarters. During initial buildup or contingency operations, the senior medical C2 headquarters may be a medical brigade or medical group. A medical brigade or group will exercise C2 over the MEDLOG battalion (forward). In a mature theater, the MEDCOM will exercise C2 over the TMMMC and the MEDLOG battalion (rear). The C2 of the medical detachment (logistics support) will be the unit to which it is attached for augmentation.

7-3. Communications

The success of combat health logistics operations is dependent upon the commander's ability to communicate with his staff, deployed elements, higher headquarters, and supporting and supported units. Combat health logistics units' communications assets include amplitude modulation (AM) and frequency modulated (FM) radios, wire and mobile subscriber equipment (MSE), tactical computer equipment, and position/navigation (POS/NAV) devices. A discussion on radios and associated equipment allocated to the combat health logistics units under the operational facility (OPFAC) rules is provided in Appendix F. The Theater Army Medical Management Information System (TAMMIS) supported by the tactical computer hardware is discussed in Chapter 8.

a. Staff Responsibilities. Each unit staff element is responsible for adhering to signal support policies, procedures, and standards in their daily operations. The unit's operations section/communications designee coordinates telecommunications interface requirements with higher headquarters and with the supporting signal unit.

b. Communications Support. Communications support for organizations within a TO is based upon a unit's level of operations. Signal support for a COMMZ unit is provided by the theater signal brigade through the theater Deputy Chief of Staff for Operations and the Deputy Chief of Staff for Information Management. Units assigned to a corps will request signal support through the corps Assistant Chief of Staff, G3 (Operations and Plans) and will be supported by the corps signal brigade.

c. Mobile Subscriber Equipment Area Communications System. Mobile subscriber equipment is the area common-user voice communications system within the corps. It is the backbone of the corps system and is deployed from the corps rear boundary forward to the maneuver battalion's main command post. It provides a secure mobile, survivable communications system capable of passing voice, data, and FAX throughout the corps. Additionally, it provides a direct interface to EACs, other Services, NATO, combat net radios (CNRs), and commercial communications systems. This system is composed of multiple communications nodes with network features which automatically bypass and reroute communications around

damaged or jammed nodes. It integrates the functions of transmission, switching, control, and terminal equipment (voice and data) into one system and provides the user with a switched telecommunications system extended by mobile subscriber radiotelephones. Nodes are deployed in the AO based on geographical and subscriber density factors. Node centers (NCs) are the building blocks of the network. Extension switches permit wire-line terminal subscribers (telephone, FAX, and data) to enter into the total area communications system. Radio access units (RAUs) let the users of mobile subscriber radiotelephone terminals (MSRTs) communicate with other mobile and wire telephone users throughout the AO. The system control centers (SCCs) provide the processing capability to assist in overall network management. The MSE system lets subscribers communicate with each other using fixed directory numbers regardless of a subscriber's battlefield location. The MSE system is comprised of the following five functional areas:

- Area coverage.
- Subscriber terminals.
- Wire subscriber access.
- Mobile subscriber access.
- System control.

The combat health logistics organizations participate in the first four of the functional areas.

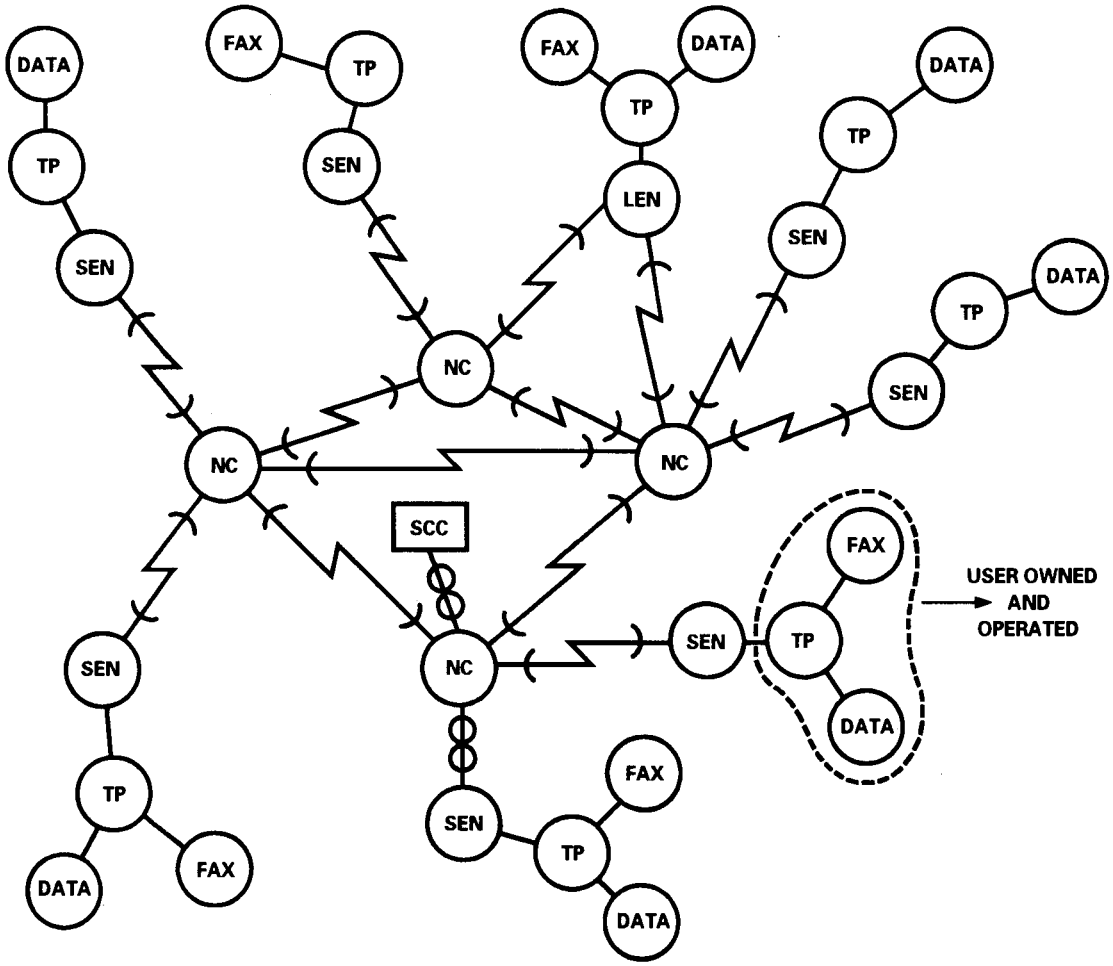
(1) *Area coverage.* The MSE system provides common-user support to a geographic area, as opposed to dedicated support to a specific unit or customer. The hubs of the system are called nodes and are under control of the corps/COMMZ signal officer.

(2) *Subscriber terminal (fixed).* The MSE telephone, mobile radiotelephone, FAX, and data terminal, as part of the area common-user system (ACUS), are user-owned and operated. The using unit is responsible for running wire to the designated junction boxes. These boxes tie the unit's MSE telephones into the extension switches which access the system. The subscriber terminals used by the unit are digital, four-wire voice, as well as data ports (of TA-1035 digital nonsecure voice terminals [DNVTs) for interfacing the AN/UXC-7 FAX, the Tactical Army Combat Service Support Computer System (TACCS), the Army Tactical Command and Control System with Common Hardware and Software (ATCCS-CHS), and the unit-level computer (ULC) as depicted in Figure 7-1.

(3) *Wire subscriber access.* Wire subscriber access points provide interface between fixed subscriber terminal equipment owned and operated by users and the MSE area system operated by the supporting signal unit. Figures 7-2 (page 7-4), 7-3 (page 7-4), and 7-4 (page 7-5) show the MSE switchboard configurations through which combat health logistics units may tie into the area system. The two types of interface equipment are—

- The signal distribution panel (junction box) J-1077. Each panel provides up to thirteen subscriber access points.
- Remote multiplexer combiners which provide access for eight subscriber access points.

The using unit is responsible for installing and operating fixed subscriber terminal instruments (DNVT TA-1035). It must also install and maintain the WF 16 field wire from the instruments to the interface point (J-1077 distribution panel). See FM 11-30 for definitive information pertaining to an MSE area communications system.



LEGEND:

DATA	TACTICAL ARMY CSS COMPUTER SYSTEM / ARMY TACTICAL C2 SYSTEM / UNIT-LEVEL COMPUTER	NC	NODE CENTER
FAX	AN UXC-7 FACSIMILE	SCC	SYSTEM CONTROL CENTER
LEN	LARGE EXTENSION NODE (SWITCHBOARD)	SEN	SMALL EXTENSION NODE (SWITCHBOARD)
		TP	DIGITAL NONSECURE VOICE TELEPHONE (DNVT-TA1035 U)

Figure 7-1. Sample of fixed subscriber terminals.

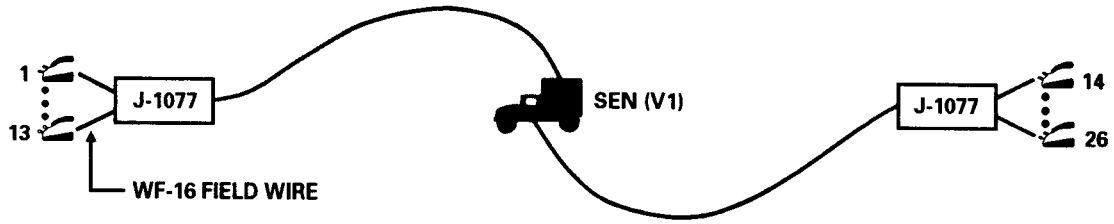


Figure 7-2. Small extension node switch interface (V1).

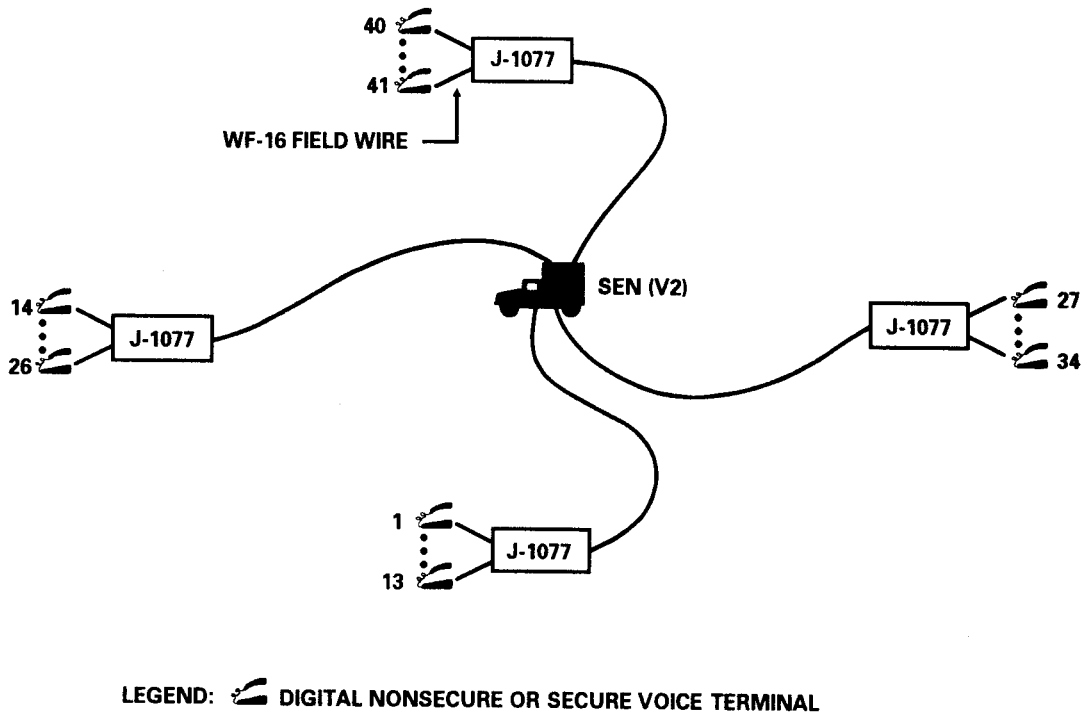


Figure 7-3. Small extension node switch interface (V2).

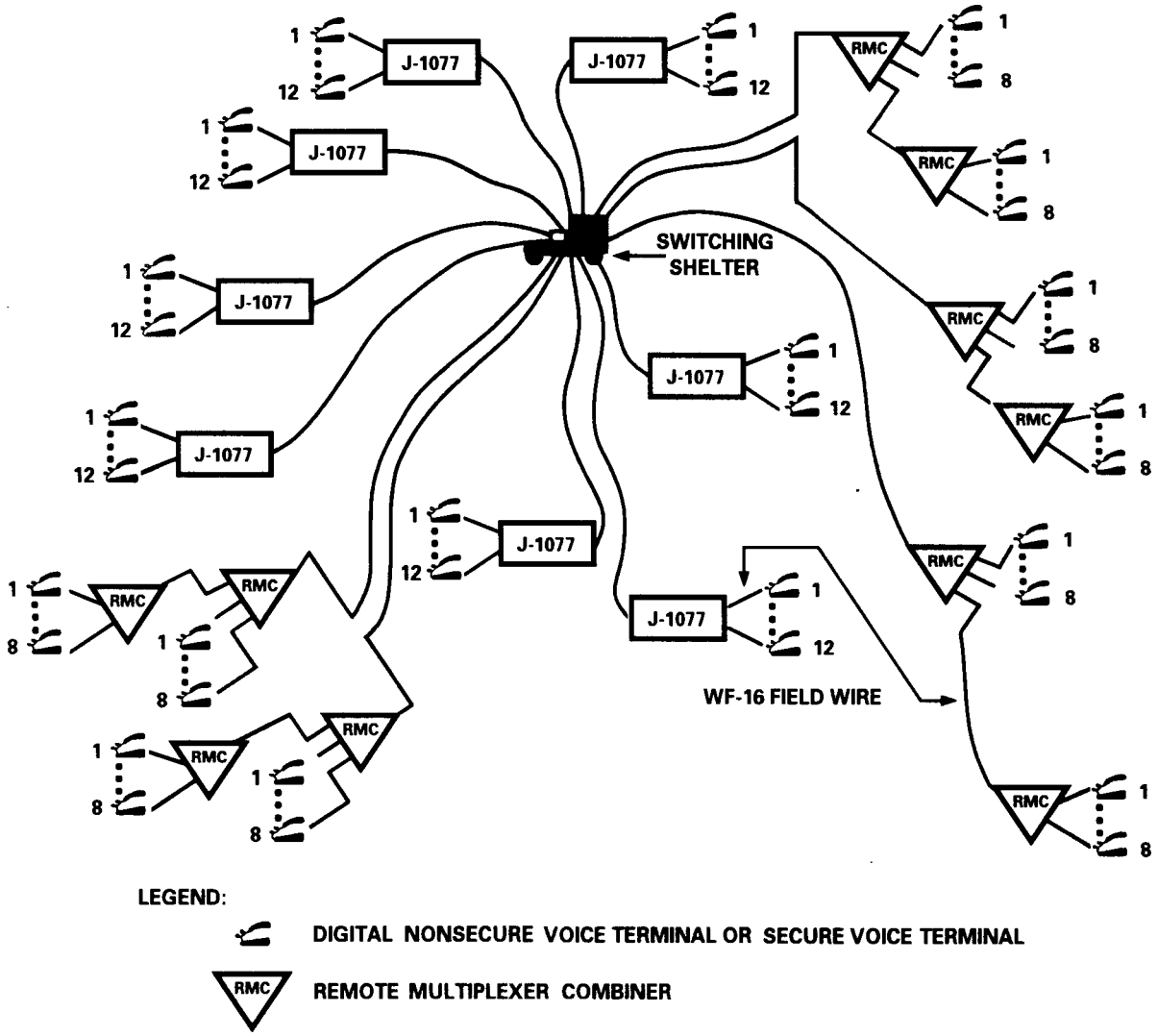


Figure 7-4. Large extension node switch interface.

(4) *Mobile subscriber terminal access.* The mobile subscriber terminal is the AN/VRC-97 MSRT. This piece of equipment consists of a very high-frequently radio and a digital secure voice terminal; it is a vehicle-mounted assembly. The MSRT interfaces with the MSE system through an RAU. The primary use of the MSRT is to provide mobile subscriber access to the MSE area network. Figure 7-5 is a typical MSRT interface into the area system.

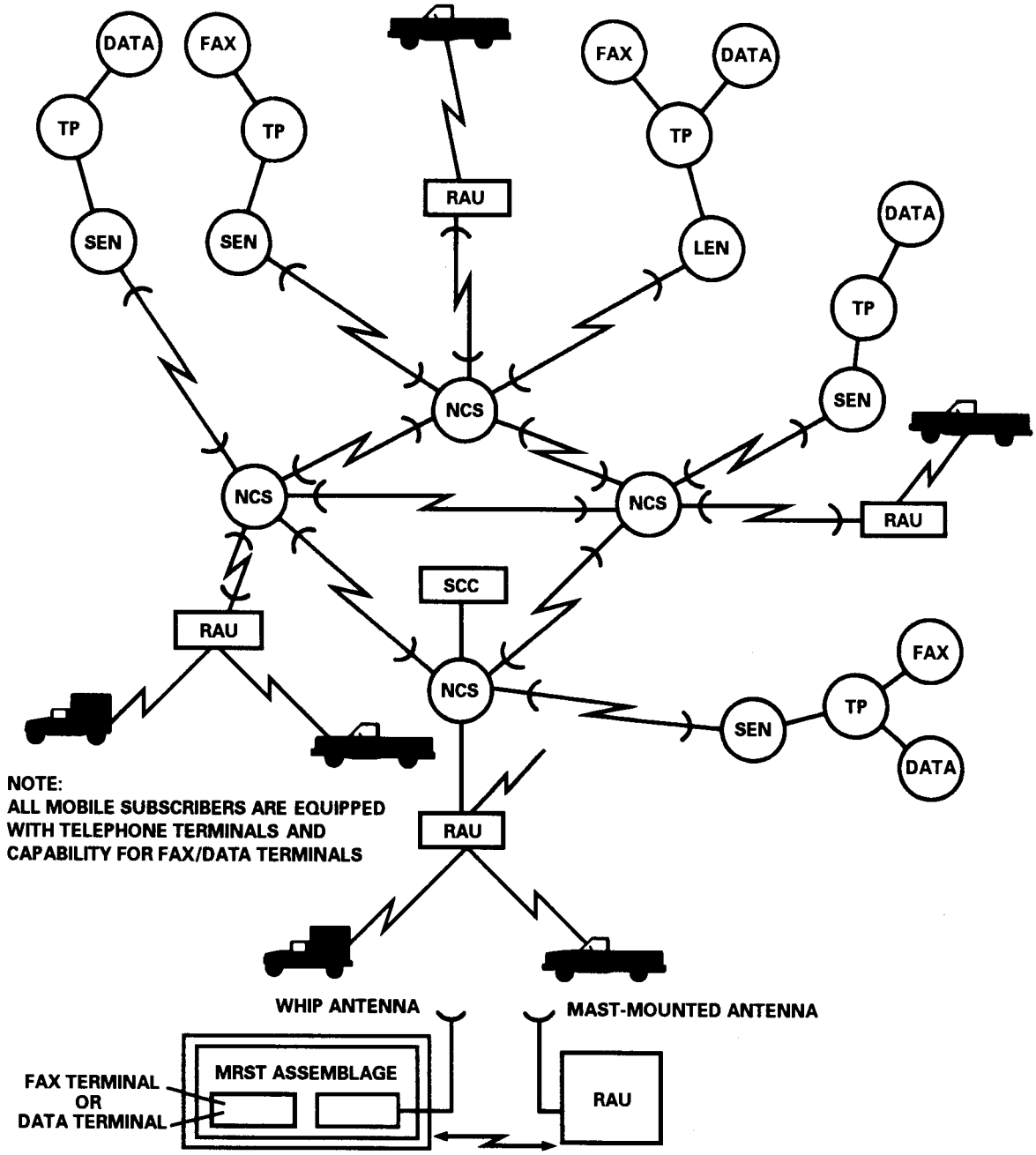


Figure 7-5. Typical MSE connectivity and MSRT interface.

d. Combat Net Radio System. The CNR equipment includes both the improved high-frequency radio (IHFR) system and the single channel ground and airborne radio system (SINCGARS). The primary use of the CNR system is voice transmission of C2 information and the secondary use is data transmission. Data transmission will be required when data transfer requirements cannot be met by the MSE system. The improved high-frequency AM radio series provide mid-to-far-range communications capability. They interface with other AM high-frequency radios and have push-button frequency selection. The SINCGARS series' FM radios are designed for simple and quick operation using a 16-element keypad for push-button tuning. They are capable of short-range operation for voice or digital data communications. The SINCGARS radios, using single-channel operations, interface with the AN/VRC-12 series radios. They can operate in a jam-resistant, frequency-hopping mode.

e. Radio Nets. Combat health logistics organizations and their staff depend on both AM and FM radios and area communications systems for mission accomplishment. The allocated radios consist of AN/VRCs 87A, 88A, 89A, and 90A and the AN/GRCs 193A and 213. These radios allow the commander(s) to operate in the battalion command net, his company's command net, the supporting higher command net, and the supported operations net.

f. Signals Security. As part of the overall security program, combat health logistics units must practice signals security (SIGSEC). The unit operations officer is responsible for SIGSEC and communications security (COMSEC). Some considerations include—

- Using terrain features, such as hills, vegetation, and buildings, to mask transmissions.
- Maintaining radio-listening silence; using the radio only when absolutely necessary.
- Distributing codes on a need-to-know basis.
- Using only authorized call signs and brevity codes.
- Using authentication and encryption codes specified in the current signal operation instructions (SOI).
- Keeping transmissions short (less than 20 seconds, if possible).
- Reporting all COMSEC discrepancies to appropriate authorities.